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10/572,710

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Dong Zhu

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EXAMINER

HANNON, CHRISTIAN A

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/572,710	<b>Applicant(s)</b> ZHU ET AL.	
	<b>Examiner</b> CHRISTIAN A. HANNON	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9, 11 & 13-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplan (US 6,690,358).

Regarding claims 1 & 15, Kaplan teaches an mobile cellular telephone & method comprising a display (Column 2, Line 12; Screen 110; Figure 1; Kaplan), a processor configured to control the operation of a mobile cellular telephone (it is noted by the examiner that while Kaplan draws illustrative examples to a PDA, the teaching is not so limited, as Kaplan explicitly teaches use of the art's teachings in a cellular phone at column 1, lines 5-46) including the display (Column 1, Lines 61-53; Column 5, Lines 13-16; Kaplan), an incline sensor, accelerometer, configured to detect inclination of the mobile telephone in a first plane (Column 2, Lines 46-50; Kaplan), wherein the mobile cellular telephone has an inclinometer mode, cursor display mode, in which the processor is configured to receive an indication of the detected incline in the first plane from the incline sensor and control the display to display (Column 3, Lines 66-67; Column 4, Lines 1-2; Kaplan), to a user of the mobile cellular phone, it is noted by the examiner that the purpose of the display as taught by Kaplan is obviously to provide information to a device end user, information. Kaplan does not explicitly teach a bar

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and an item, at a position within the bar dependent upon the received indication, the position of the item within the bar representative of the sense and dependent inclination of the mobile cellular phone in the first plane. Kaplan does teach that a cursor may be moved in a manner such that cursor movement is analogous to that of a spirit level, therefore as Kaplan suggests movement to emulate a spirit level, this imports common knowledge to those of the art as to what it would take to display a spirit level (Column 4, Lines 5-16; Kaplan). Therefore it would be obvious to one of ordinary skill in the art to modify the teachings of Kaplan so that the actual display emulated a spirit level, since Kaplan suggests doing such a thing, further motivated by the fact that portable digital spirit levels are widely known in the marketplace.

Regarding claim 2, Kaplan teaches claim 1, wherein the processor receives real-time indications of the detected incline in the first plane from the incline sensor and controls the display to move an item, in real-time through positions dependent upon the received indications (Column 3, Lines 52-67; Column 4, Lines 1-2; Kaplan).

Regarding claim 3, Kaplan teaches claim 1, wherein the display has a first axis and the processor controls the display to display an item at a position along the first axis dependent upon the received indication (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

Regarding claim 4, Kaplan teaches claim 1, wherein the incline sensor is configured to additionally detect inclination of the mobile telephone in a second plane (Kaplan teaches both x-y & z-x planes, for example), orthogonal to the first plane, wherein, in the inclinometer mode, the processor receives an indication of the detected

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incline in the second plane from the incline sensor and controls the display to display a further item at a position dependent upon the received indication (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

Regarding claims 5 & 16, Kaplan teaches claims 4 & 15, wherein the processor receives real-time indication of the detected incline in the first and second planes from the incline sensor and controls the display to move the item and the further item in real-time through positions dependent upon the received indications, Kaplan teaches that the cursor, or spirit level function, can be moved in real time based on real-time processing (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

Regarding claims 6 & 17, Kaplan teaches claims 4 & 15, wherein the display has a first axis and a second axis orthogonal with the first axis and the processor controls the display to display the item at a position along the first axis dependent upon the received indication of the detected incline in the first plane and the further time at a position along the second axis dependent upon the received indication of the detected incline in the second plane (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

Regarding claims 7 & 18, Kaplan teaches claims 1 & 15, wherein the incline sensor is additional configured to detect inclination of the mobile telephone in a second plane, orthogonal to the first plane and the processor in the inclinometer mode receives a first indication of the detected inline in the first plane and a second indication of the detected incline in the second plane from the incline sensor and controls the display to display the item at a position dependent upon the received first and second indications (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

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Regarding claims 8 & 20, Kaplan teaches claims 7 & 18, wherein the display has a first axis and a second axis orthogonal with the first axis and the processor controls the display to display the item at a co-ordinate position (I, j), or (x, y or z coordinates as taught by Kaplan), wherein the first co-ordinate is dependent upon the received indication of the detected incline in the first plane and second co-ordinate is dependent upon the received indication of the detected incline in the second plane (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

Regarding claims 9 & 19, Kaplan teaches claims 7 & 18, wherein the processor receives real time indications of the detected incline in the first and second planes from the incline sensor and controls the display to move the item in real time through positions dependent upon the received indications (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

Regarding claim 11, Kaplan teaches an mobile cellular telephone comprising a display (Column 2, Line 12; Screen 110; Figure 1; Kaplan), a processor configured to control the operation of a mobile cellular telephone (it is noted by the examiner that while Kaplan draws illustrative examples to a PDA, the teaching is not so limited, as Kaplan explicitly teaches use of the art's teachings in a cellular phone at column 1, lines 5-46) including the display (Column 1, Lines 61-53; Column 5, Lines 13-16; Kaplan), a first incline sensor configured to detect an inclination of the mobile telephone when in a first orientation (Accelerometer item 10; Column 2, Lines 41-44; Kaplan) and a second incline sensor configured to detect an inclination of the mobile telephone when in a second orientation (Accelerometer item 11; Column 2, Lines 41-44; Kaplan), wherein

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the mobile cellular telephone has an inclinometer mode, cursor display mode, in which the processor is configured to determine an approximate orientation of the mobile telephone from inputs from the first and second incline sensors and automatically control the display to display information (Column 3, Lines 66-67; Column 4, Lines 1-2; Kaplan). Kaplan does not explicitly teach a bar and an item, at a position within the bar dependent upon the received indication, the position of the item within the bar representative of the sense and dependent inclination of the mobile cellular phone in the first plane. Kaplan does teach that a cursor may be moved in a manner such that cursor movement is analogous to that of a spirit level, therefore as Kaplan suggests movement to emulate a spirit level, this imports common knowledge to those of the art as to what it would take to display a spirit level (Column 4, Lines 5-16; Kaplan). Therefore it would be obvious to one of ordinary skill in the art to modify the teachings of Kaplan so that the actual display emulated a spirit level, since Kaplan suggests doing such a thing, further motivated by the fact that portable digital spirit levels are widely known in the marketplace.

Regarding claim 13, Kaplan teaches the use of a mobile telephone as claimed in claim 1 for measuring an incline (Column 4, Lines 5-14; Kaplan).

Regarding claim 14, Kaplan teaches the use of a mobile telephone as claimed in claim 1, for correcting an incline (Column 4, Lines 5-14; Kaplan).

Regarding claim 21, Kaplan teaches claim 15, wherein detecting inclination of the mobile telephone in a second plane, orthogonal to the first plane, and when in the inclinometer mode, the method includes receiving a first indication of the detected

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incline in the first pane and a second indication of the detected incline in the second plane and controlling the display to display the item at a position dependent upon the received first and second indications (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

Regarding claim 22, Kaplan teaches claim 21, wherein the display has a first axis and a second axis orthogonal with the first axis and the method includes controlling the display to display the item at a co-ordinate position, wherein the first co-ordinate is dependent upon the received indication of the detected incline in the first plane and second co-ordinate is dependent upon the received indication of the detected incline in the second plane (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

Regarding claim 23, Kaplan teaches claim 21, comprising receiving real time indications of the detected incline in the first and second planes and controlling the display to move the item in real time through positions dependent upon the received indications (Column 3, Lines 52-67; Column 4, Lines 1-14; Kaplan).

Regarding claim 24, Kaplan teaches claim 1, wherein the mobile cellular telephone emulates a spirit level when it is in the inclinometer mode (Column 4, Lines 5-15; Kaplan).

Regarding claim 25, Kaplan teaches an mobile cellular telephone comprising a display (Column 2, Line 12; Screen 110; Figure 1; Kaplan), a processor configured to control the operation of a mobile cellular telephone including the display (it is noted by the examiner that while Kaplan draws illustrative examples to a PDA, the teaching is not so limited, as Kaplan explicitly teaches use of the art's teachings in a cellular phone at



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column 1, lines 5-46) including the display (Column 1, Lines 61-53; Column 5, Lines 13-16; Kaplan), an incline sensor configured to detect inclination of the mobile telephone in a first plane, wherein the mobile cellular telephone has an inclinometer mode, cursor display mode, in which the processor is configured to receive an indication of the detected incline in the first plane from the incline sensor and control the display to display information, to a user of the mobile telephone (Column 3, Lines 66-67; Column 4, Lines 1-2; Kaplan). Kaplan fails to explicitly teach a bar and an item at a position within the bar, dependent upon the received indication, wherein the position of the item within the bar provides an indication to the user of the incline of the mobile cellular telephone in the first plane, and wherein the processor is configured to position the item at a central location within the bar when the inclination of the mobile cellular telephone in the first plane is substantially zero. Kaplan does teach that a cursor may be moved in a manner such that cursor movement is analogous to that of a spirit level, therefore as Kaplan suggests movement to emulate a spirit level, this imports common knowledge to those of the art as to what it would take to display a spirit level (Column 4, Lines 5-16; Kaplan). Therefore it would be obvious to one of ordinary skill in the art to modify the teachings of Kaplan so that the actual display emulated a spirit level, since Kaplan suggests doing such a thing, further motivated by the fact that portable digital spirit levels are widely known in the marketplace.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplan in view of Kalinski et al (US 2003/0174307), hereinafter Kalinski.

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Regarding claim 10, Kaplan teaches claim 1, however fails to teach wherein the incline sensor comprises a first pair of electrodes aligned along the first plane and partially immersed in a liquid for providing a first signal indicative of an incline in the first plane and a second pair of electrodes aligned along a second plane, orthogonal to the first plane and partially immersed in a liquid for providing a second signal indicative of an incline in the second plane. Kalinski teaches wherein the incline sensor comprises a first pair of electrodes aligned along the first plane and partially immersed in a liquid for providing a first signal indicative of an incline in the first plane and a second pair of electrodes aligned along a second plane, orthogonal to the first plane and partially immersed in a liquid for providing a second signal indicative of an incline in the second plane (Page 5, [0079]; Kalinski). Therefore it would be obvious to one of ordinary skill in the art to substitute Kalinski's sensor for the accelerometer of Kaplan, since they both provide the same purpose and there is only a finite number of sensor implementations reasonable to try.

### ***Response to Arguments***

Applicant's arguments filed 1/27/2009 have been fully considered but they are not persuasive. First regarding applicant's remark, that the movement of the device corresponds to movement confined within a bar, the Examiner respectfully disagrees with the applicant's characterization of the language. Bar as defined is a "solid oblong block of a substance" (Webster's II: New Riverside University Dictionary; 1994) in this instance that substance has been interpreted by the Examiner as the display panel

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disclosed by Kaplan. Further in view of the fact that the cursor would move in two-dimensional motion, that motion is of course constrained within the bar or display.

In response to Applicant's remarks regarding claim 11, the Examiner respectfully disagrees. As shown above the motion of the cursor is in fact constrained within the bar or display, and therefore acts similarly, as Kaplan suggests, to a spirit level.

In response to Applicant's remarks regarding claim 15, the Examiner respectfully disagrees. As shown above, the motion of the cursor is in fact constrained within the bar or display, and therefore acts similarly, as Kaplan suggests, to a spirit level. To emulate a spirit level does not require exact similarity, but merely a striving for equality (Webster's II: New Riverside University Dictionary; 1994), acting similarly is sufficient to read on the currently recited claim language. As Kaplan does teach such similarity the claim has been sufficiently rejected.

Regarding claim 25, as has been iterated above, the Examiner's interpretation of the prior art does not fail to read on the claim because it would "restrict the movement of the cursor to within a bar." The Examiner has interpreted the display to be the "bar" so of course movement within the bar is still possible for the cursor, and rendering Kaplan fully functional.

Correspondingly claims 2-10, 13, 14 & 16-24, remain rejected as set forth hereinabove.

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTIAN A. HANNON whose telephone number is (571)272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. A. H./  
Examiner, Art Unit 2618  
April 6, 2009

/Edward Urban/  
Supervisory Patent Examiner, Art Unit 2618